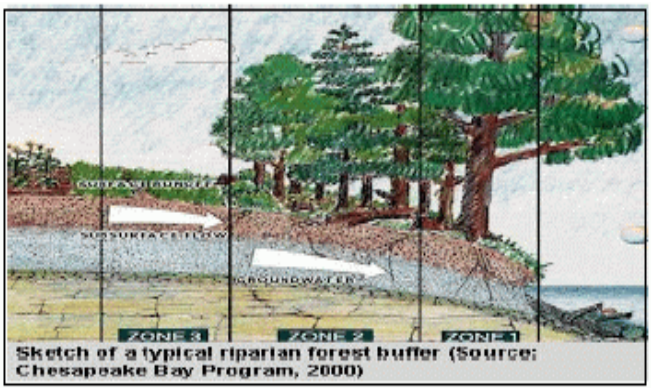
Floodplain Management: Stream Buffer Examples



Sketch of a typical riparian forest buffer (Source: Chesapeake Bay Program, 2000)

Description

A vegetated area, including trees, shrubs, and herbaceous vegetation, which exists or is established to protect streams, wetlands, or other water bodies.

Agency/Community Standards and Recommendations:

EPA 3-zone Buffer
100 foot buffer extending on both sides of stream. Plus:
1) 25 feet added to base buffer for streams third order and above
2) steeper slopes require wider buffers
3) buffer should extend 100 feet or 25 feet beyond the 100 yr floodplain, whichever is larger
4) buffer extended to encompass wetlands plus 25 feet

Streamside zone - 25 feet - undisturbed natural vegetation

Middle zone - 50 feet - passive recreation, limited tree clearing, stormwater management facilities, mature native vegetation.

Outer zone - 25 feet - no permanent structures or impervious cover - encourage native vegetation

Center for Watershed Protection : Three-zone Urban Stream Buffer System

Streamside zone: Min. 25 feet plus wetlands and critical habitat. Undisturbed mature forest, reforest if grass. Uses: foot paths, utility right of way, flood control

Middle zone: 50 to 100 feet, depending on stream order, slope and 100 year flood plain. Managed forest, some clearing allowable. Some recreational uses, some stormwater BMPs, bike paths, tree removal.

Outer zone: Min. 25 foot setback to structures. Forest encouraged, but usually turf. Residential uses including yards, garden, compost, most stormwater BMPs

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Agency/Community Standards and Recommendations:

Natural Resources Conservation Service: Conservation Practice Standard Riparian Forest Buffer

Zone 1 - 15 feet horizontally either side. Undisturbed forest.
Zone 2- from edge of zone 1 plus 20 feet. Managed forest.
*Zone 1+ 2, 35 feet or 30% of 100 year flood plain, whichever is greatest. When 30% of the 100 year flood plain exceeds 100 feet, the minimum width is 100 feet.
Zone 3 - can be added to consist of stiff stemmed grasses adjacent to zone 2 where erosion is a risk. Haying and recreation allowable; no paving, livestock, or chemical pollutants.

Lower Platte South Natural Resource District: 3-Zone Buffer Minimum 100 foot buffer on either side
Stream side zone - mature riparian forest, undisturbed

Middle zone - variable width - mature forest with some clearing allowed for storm water management, access, and recreational uses.

Outer zone - 25 feet - usually turf, but shrubs and trees are encouraged

Chesapeake Bay Program
Resource Protection Zones (RPZ) - overlay zoning used to protect wetland and riparian areas. Minimum buffer of 50 feet each side for smaller stream channels, 100 feet for wider stream channels. If the floodplain extends beyond the buffer, the edge of the floodplain constitutes the edge of the RPZ

United States Dept. of Agriculture
Minimum 95 feet on either side
Zone 1 - 15 feet from top of bank horizontally - native riparian trees and shrubs
Zone 2 - 60 feet horizontally from zone 1 edge - managed riparian vegetation, emphasis on native species and nitrogen fixing species.
Zone 3 - 20 feet horizontally from zone 2 edge - stiff stemmed and sod forming grasses and forbes.

Baltimore County, MD
Class I and II stream buffers measured from centerline of stream, all others measured from stream bank of active channel. Class I or I-p stream buffer widths greater than 75 feet, 25 feet from outer wetland boundary, or 25 feet from 100 year floodplain boundary, whichever is greatest. Class III, III-P, IV or IV-P stream buffer widths greater than 100 feet, 25 feet from outer wetland boundary, or 25 feet from 100 year floodplain boundary, whichever is greatest.

City of Napa, CA
50 feet either side of bank, use of indigenous vegetation.

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Agency/Community Standards and Recommendations:

Wisconsin Dept. of Natural Resources
100 feet either side of perennial streams
35 feet either side of intermittent streams
Vegetation should be long-lived trees, selectively harvested to promote vigorous growth.

Montgomery County Planning Commission, Norristown, Pennsylvania
75 foot minimum either side of stream, native vegetation in 2 zones 1) undisturbed 2) managed

Metro Regional Government, Portland, OR
50 - 200 feet using a formula that incorporates slope.
Slope is measured for first 50 feet. If the slope of the first 50 feet is < 25%, the buffer is 50 feet. If it is more, the slope of the next 25 feet is calculated. If this slope is <25%, that 25 foot section is included, *plus* another 25 feet, to make a 100 foot buffer. This continues until the slope is <25%, or until a 200 foot buffer has been created.

References

Baltimore Co., MD. Buffer Protection and Management Ordinance
http://www.epa.gov/OWOW/NPS/ordinance/language.htm
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